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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/835,419	04/09/1997	ARTHUR P. FRAAS		5023

7590 10/09/2002

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EXAMINER
DOROSHENK, ALEXA A

ART UNIT	PAPER NUMBER
1764	17

DATE MAILED: 10/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	08/835,419	FRAAS ET AL.	
	Examiner	Art Unit	
	Alexa A. Doroshenk	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 April 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 16-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14 and 16-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

1. The examiner notes that the amendment filed April 15, 2002 is in error as applicant has both cancelled and amended claim 1. The examiner believes that applicant intended to cancel claim 5 since the subject matter of claim 5 has been incorporated into the now amended claim 1. Claims 1 and 5 have both been treated below.

Allowable Subject Matter

2. The indicated allowability of claims 5, 10, 15 and 20 is withdrawn in view of the newly discovered reference(s) to Dospoy et al. (5,743,924), Potter et al. (6,112,675), Bridle et al. (4,781,796) and Piotter (4,931,171). Rejections based on the newly cited reference(s) follow.

3. Claims 7, 8, 17 and 18 which were indicated by the Board of Patent Appeals and Interferences as reversed are now rejected based on the newly cited references.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-6, 11-16, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Selep et al. (4,397,657) in view of Dospoy et al. (5,743,924).

Selep discloses an apparatus and a process for charging or feeding coal particles into a pressurized gasification reactor in such a way as to prevent air in the ambient atmosphere from flowing into the apparatus and to prevent gases in the reactor from flowing into the feed apparatus, thereby avoiding the development of a combustible mixture of gases within the apparatus. These objectives are achieved via a feed apparatus which includes first and second rotary gas locks and means for injecting nitrogen, steam and a buffer gas (e.g., clean product gas from the gasification reactor) into the apparatus. It has been determined that the injection of steam (or clean product gas from the gasification reactor) in Selep's apparatus and process would necessarily preheat the coal particles and (along with the injected nitrogen) would remove oxygen released from the heated coal particles thereby transporting it away (i.e., via conduit 51 of patentee's apparatus) as required by the independent apparatus and the process claims on appeal.

It is also held that patentee's apparatus and process would necessarily and inherently achieve these functions since patentee's apparatus elements and process steps correspond to those recited in the claims.

Selep is silent to providing a vibrating machine connected to the vessel of coal particles.

Dospoy et al. disclose a coal vessel (10) and disclose wherein the vessel is connected to a vibrating machine (14) which also corresponds to a coal feeding means (col. 2, lines 45-47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the vibrating feeding means of Dospoy et al. as

the feeding means in the apparatus of Selep as it is merely the selection of functionally equivalent coal feeding means known to be effective in the art and one of ordinary skill would have a reasonable expectation of success as well as have an ability to recognize the inherent advantages that a vibrating feeder would provide to a device requiring a coal feed.

6. Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Selep et al. (4,397,657) in view of Potter et al. (6,112,675).

Selep discloses an apparatus and a process for charging or feeding coal particles into a pressurized gasification reactor in such a way as to prevent air in the ambient atmosphere from flowing into the apparatus and to prevent gases in the reactor from flowing into the feed apparatus, thereby avoiding the development of a combustible mixture of gases within the apparatus. These objectives are achieved via a feed apparatus which includes first and second rotary gas locks and means for injecting nitrogen, steam and a buffer gas (e.g., clean product gas from the gasification reactor) into the apparatus. It has been determined that the injection of steam (or clean product gas from the gasification reactor) in Selep's apparatus and process would necessarily preheat the coal particles and (along with the injected nitrogen) would remove oxygen released from the heated coal particles thereby transporting it away (i.e., via conduit 51 of patentee's apparatus) as required by the independent apparatus and the process claims on appeal.

It is also held that patentee's apparatus and process would necessarily and inherently achieve these functions since patentee's apparatus elements and process steps correspond to those recited in the claims.

Selep is silent to injecting flue gas into the apparatus.

Potter et al. teaches a similar apparatus and process of carbonaceous material treatment wherein low oxygen content flue gas is used as a sweep gas and inhibit combustion (col. 3, lines 30-34). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the teaching of Potter et al. to the apparatus and process of Selep in order to create an efficient apparatus and process by reusing a product already generated during operation.

7. Claims 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Selep et al. (4,397,657) in view of Bridle et al. (4,781,796).

Selep discloses an apparatus and a process for charging or feeding coal particles into a pressurized gasification reactor in such a way as to prevent air in the ambient atmosphere from flowing into the apparatus and to prevent gases in the reactor from flowing into the feed apparatus, thereby avoiding the development of a combustible mixture of gases within the apparatus. These objectives are achieved via a feed apparatus which includes first and second rotary gas locks and means for injecting nitrogen, steam and a buffer gas (e.g., clean product gas from the gasification reactor) into the apparatus. It has been determined that the injection of steam (or clean product gas from the gasification reactor) in Selep's apparatus and process would necessarily preheat the coal particles and (along with the injected nitrogen) would remove oxygen

released from the heated coal particles thereby transporting it away (i.e., via conduit 51 of patentee's apparatus) as required by the independent apparatus and the process claims on appeal.

It is also held that patentee's apparatus and process would necessarily and inherently achieve these functions since patentee's apparatus elements and process steps correspond to those recited in the claims.

Selep is silent to providing non-condensable combustible gases, partially burner the gases and supply them to the bed of coal particles to serve as a sweep gas.

Bridle et al. discloses a furnace for organic matter and teaches wherein non-combustible gases can be recycled to a heating zone and furnace (to burn) and operate as sweep/purge gases (col. 8, lines 54-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the teaching of Bridle et al. to the apparatus and process of Selep in order to create an efficient apparatus and process by reusing a product already generated during operation.

8. Claims 10, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Selep et al. (4,397,657) in view of Piotter (4,931,171).

Selep discloses an apparatus and a process for charging or feeding coal particles into a pressurized gasification reactor in such a way as to prevent air in the ambient atmosphere from flowing into the apparatus and to prevent gases in the reactor from flowing into the feed apparatus, thereby avoiding the development of a combustible mixture of gases within the apparatus. These objectives are achieved via a feed apparatus which includes first and second rotary gas locks and means for injecting

nitrogen, steam and a buffer gas (e.g., clean product gas from the gasification reactor) into the apparatus. It has been determined that the injection of steam (or clean product gas from the gasification reactor) in Selep's apparatus and process would necessarily preheat the coal particles and (along with the injected nitrogen) would remove oxygen released from the heated coal particles thereby transporting it away (i.e., via conduit 51 of patentee's apparatus) as required by the independent apparatus and the process claims on appeal.

It is also held that patentee's apparatus and process would necessarily and inherently achieve these functions since patentee's apparatus elements and process steps correspond to those recited in the claims.

Selep is silent to providing ceramic balls in the preheat of the furnace and circulating the balls from the furnace to the pretreatment vessel.

Piotter teaches a similar carbonaceous material treatment apparatus and process wherein ceramic balls are heated and circulated to and from a furnace and a retort as a heating technique (col. 2, lines 25-33). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the heating technique of circulating ceramic balls, as taught by Piotter, in the apparatus and process of Selep as it is merely the selection of heating methods and means known to be effective in the art and one of ordinary skill would have a reasonable expectation of success as well as have an ability to recognize the inherent advantages that a circulating ceramic balls heating technique would provide to a device.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa A. Doroshenk whose telephone number is 703-305-0074. The examiner can normally be reached on Monday - Thursday from 8:30 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode can be reached on 703-308-4311. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

AAD
October 2, 2002

Marian C Knode
MARIAN C. KNODE
SUPERVISORY PATENT EXAMINER
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